Review Comments
Independent Cleanup Pathway Report
Kenton Foundry and Adjacent Railroad Spur Properties
Portland, Oregon
ESCI #5758
Dated April 2015

Following are the U.S. Environmental Protection Agency's (EPA's) comments on the document titled *Independent Cleanup Pathway Report, Kenton Foundry (Former) and Adjacent Railroad Spur (Former) Properties, 650-668 North Tillamook Street, Portland, Oregon, ECSI #5758* (ICP Report) prepared by AMEC Environment & Infrastructure, Inc. on behalf of the City of Portland Bureau of Environmental Services. The subject property (referred to as the "Site" in the ICP Report) comprises the Former Kenton Foundry property and a portion of an adjoining former railroad spur area. EPA's review and comments focused upon the source control evaluation (SCE) that is presented in Section 12.0 of the ICP Report. Other sections of the ICP Report relevant to the SCE were also reviewed. The purpose of EPA's review of the SCE was to verify that groundwater and stormwater transport pathways were properly characterized in the SCE and that any conclusions made regarding the absence of complete pathways for Site contaminants to reach the Willamette River are supported by the analysis.

General Comments

EPA has the following general comments pertaining to the ICP Report:

1. Based on the information presented in the ICP Report, the City of Portland Water Bureau has implemented extensive source control measures at the Site to address metals and polychlorinated biphenyl (PCB) contaminant sources. Source control measures included: removal of a heating oil underground storage tank (UST); demolition and removal of PCB and metals wastes and building materials; excavation of contaminated soil to depths of up to 9 feet below ground surface (bgs) and off-site disposal; cleaning and decommissioning of the on-site stormwater system; capping of most of the Site with new building construction and paving; and installation of a new stormwater management system. While EPA finds the stormwater source controls sufficient, there are questions and concerns related to characterization of the groundwater pathway which are articulated in the following comments.

2. Insufficient data and evaluation is presented in the ICP Report to characterize the groundwater pathway at this Site. The data presented to characterize contaminant concentrations in groundwater are limited to 3 direct push borings (B-5, B-6, and B-7) that were advanced during an initial Phase II Environmental Site Assessment conducted in 2010. These borings were advanced prior to the complete delineation of contamination in soil at the Site and were not advanced at the locations where the highest potential for groundwater contamination would be expected. For example at borings B-5, B-6, and B-7, maximum total PCB concentrations detected in soil ranged from 120 to 825 micrograms per kilogram (µg/kg) and concentrations exceeding the screening levels were limited to the top 3 feet of soil. In contrast, at the south end of the Former Kenton Foundry boundary and former railroad spur boundary, total PCB

concentrations in soil were much higher (6,790 to 672,000 µg/kg) and PCB concentrations exceeding the Oregon Department of Environmental Quality (DEQ) Clean Fill screening level extended to depths exceeding 9 feet bgs; however, no groundwater samples were collected in the inferred hydraulically downgradient location from this area. Section 3.5 of the ICP states that groundwater is presumed to flow to the west, toward the Willamette River. PCB concentrations of up to 316 µg/kg were detected in some of the post-excavation bottom confirmation soil samples, indicating that residual PCBs remain in deep soil in this area.

EPA also notes that total petroleum hydrocarbons (diesel range) were detected at concentrations of up to 29,000 mg/kg and naphthalene was detected at concentrations of up to 17,000 µg/kg in soil at the former heating oil UST location at depths of up to 9 feet bgs and groundwater has not been sampled in the inferred hydraulically downgradient location from this area.

The main factors used in the SCE to determine that the groundwater to surface water pathway is incomplete include: low concentrations of contaminants detected in groundwater; the distance from the Site to the river; and the depth to groundwater being greater than the depth of downgradient stormwater pipes or other preferential pathways. While these factors may be valid, they have not been adequately characterized in the ICP Report to make this determination. As described above, the contaminant concentrations in groundwater are not representative of the most contaminated areas of the Site. The wide range of groundwater depths (19 to 32 feet) observed at three borings located less than 60 feet apart indicate uncertainty in actual groundwater depths at the Site or may be indicative of perched groundwater conditions. No information regarding the stormwater/sewer lines associated with Outfall 43, which are located less than 300 feet in the inferred hydraulically downgradient location from the Site, is presented in the ICP Report (e.g. pipe invert elevation and bottom of pipe bedding elevation and composition).

To complete the groundwater SCE for the Site, the following data collection and evaluation should be completed:

- A shallow groundwater monitoring well should be installed and sampled in the inferred hydraulically downgradient area of the south end of the Former Kenton Foundry boundary and the former railroad spur boundary.

- Monitoring of water levels in the new well should be conducted to determine the groundwater elevation and seasonal changes throughout a one-year period.

- If PCBs are detected in the new well at concentrations exceeding the applicable screening levels (e.g. Portland Harbor Joint Source Control Screening Levels and the Portland Harbor Preliminary Remediation Goals), then the groundwater gradient should be determined to assess the contaminated groundwater flow path. The groundwater gradient can be determined either through installation of and monitoring at additional monitoring wells or utilizing data from neighboring sites.

- Groundwater contaminant transport via preferential pathways, such as along the Outfall 43 stormwater alignment, should be further evaluated by including invert elevations and construction information.

3. Section 12.3 of the ICP Report states that "Following completion of Site redevelopment, stormwater will be retained on-site to the maximum extent practicable. On the Site, two lined flow-through planters (planters C and G) and pervious concrete with under-drain systems will direct stormwater to two infiltration galleries (galleries B and D) located off-site on the Interstate Maintenance Facility (see Figure 8)." The ICP Report should address the potential impacts that infiltration Gallery D will have on groundwater quality at the Site. Figure 8 indicates infiltration Gallery D will receive a large percentage of the stormwater runoff from the Site. Stormwater infiltration at Gallery D can introduce stormwater contaminants into the subsurface, promote leaching of residual PCBs from soil to groundwater, and locally raise groundwater levels.

   Leaching of residual PCBs from soil is of concern because infiltration Gallery D is located adjacent to the area where confirmation samples indicate PCB concentrations in soil exceed the DEQ Clean Fill screening level of 200 µg/kg and also exceed the EPA Regional Screening Level, Protection of Groundwater Risk Based Soil Screen Level (EPA RSL) of 5.5 µg/kg for Aroclor 1260. Excavation bottom confirmation samples CS-RR-5 and CS-RR-6 indicate PCB concentrations of 316 and 171 µg/kg in residual soil at a depth of 9 feet bgs. Based on sidewall samples SW-RR-5 and SW-RR-4, PCB contaminated soil extends to the east and south of the 9-foot excavation at the Railroad Spur; however, no excavation bottom samples were collected east and south of SW-RR-5 and SW-RR-4 to characterize PCB concentrations in the remaining soil.

   A shallow groundwater monitoring well should be installed in the inferred hydraulically downgradient location from infiltration Gallery D to evaluate potential impacts to groundwater quality due to residual PCBs in soil and infiltration of stormwater at Gallery D. The monitoring well requested to address General Comment #2 can also be used for this evaluation. Groundwater samples should be collected and analyzed for PCBs.

Specific Comments

EPA has the following specific comments pertaining to the ICP Report:

1. Page 7, Section 4.1, Environmental Investigations: The total PCBs bullet mentions a Portland Harbor Joint Source Control Strategy (JSCS) stormwater sediment screening level value (SLV) of 0.39 ug/kg. Please clarify the source of this number as the number in the JSCS document indicates 676 ug/kg.

2. Page 10, Section 4.3.3, Bulk Sample Analysis of PCBs: The language in this section is not consistent with the Toxic Substances Control Act (TSCA) or the Resource Conservation and Recovery Act (RCRA) - there is no such thing as TSCA hazardous waste. The author may have intended to reference the criteria in 40 CFR 761.61(a) (self-implementing PCB cleanup regulations) that provide authorization to dispose of

PCB remediation waste at concentrations >50 part per million (ppm) in a chemical waste landfill and PCB remediation waste at lower concentrations in a solid waste landfill.

Alternatively, the author may have intended to make reference to the definition of PCB remediation waste. The as-found 50 ppm decision criteria in the definition of PCB remediation waste only applies to spills/releases that occurred prior to April, 1978. Otherwise, the definition of PCB remediation waste includes materials at any concentration if they are the result of a post-1978 spill/release or from an unauthorized use of PCBs.

TSCA does provide that the facility has the burden of documenting the date and source concentration of a spill/release of PCBs (see 40 CFR 761.60(b)(3)(iii)). As a matter of policy in EPA Region 10, if a facility cannot satisfy this requirement, EPA assumes that all detectable PCBs meet the definition of PCB remediation waste, and the associated materials are subject to cleanup and disposal requirements of 40 CFR 761. The ICP Report should be carefully reviewed and corrected as necessary to ensure these points are appropriately addressed.

3. Page 12, Section 6, Soil Handling Classification: As noted in Specific Comment 2, it may well be that materials (e.g., soils) at as-found concentrations less than 50 ppm meet, or are considered to meet, the definition of PCB remediation waste. The ICP Report should be carefully reviewed and corrected as necessary to appropriately document what is classified as PCB remediation waste and thus subject to the cleanup and disposal requirements of 40 CFR 761.61.

   This comment also applies to Section 9.2, including the title of the section.

4. Page 19, Section 9.4 Contaminated Soil, second bullet: See Specific Comments 2 and 3 regarding the definition of PCB remediation waste. It may well be that soil with concentrations less than 50 ppm is regulated, or considered to be regulated, as PCB remediation waste, including disposal requirements. This is mostly a jurisdictional question, as TSCA typically requires disposal of <50 ppm PCB remediation waste in a solid waste landfill, which was the disposal choice for the waste in question.